BENCHMARKS

VOLUME 5 NUMBER 10 NORTH TEXAS STATE UNIVERSITY NOVEMBER 1984

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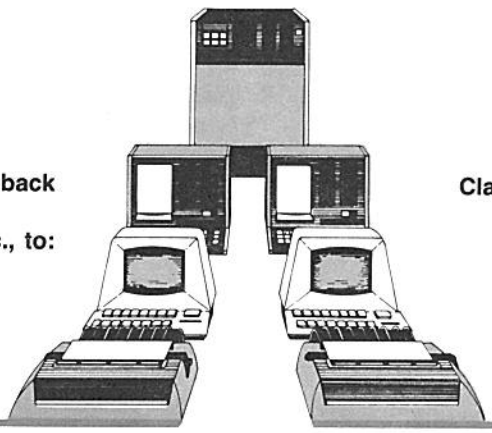

BENCHMARKS Reader/User feedback is encouraged.
Send all letters, suggestions, etc., to:
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Services Available to Users of the NTSU Computing Facilities

The NTSU Computing Center is located in the Information Sciences Building, Room 119. Telephone: (817) 565-2324. HELP DESK phone: 565-4050.

INFORMATION AND ID CODES - Carolyn Goodman

BENCHMARKS QUESTIONS/CONTRIBUTIONS, ETC. - Claudia Lynch

STATISTICAL/RESEARCH SUPPORT - George Morrow, Scott Barber, Claudia Lynch, Dave Molta, Panu Sittiwong

STUDENT PROGRAMMING PROBLEMS - CSCI Department, Room 542A, GAB
BCIS Department, Room 152, BA

JCL PROBLEMS - Help Desk

PRE-RESEARCH COUNSELING - George Morrow, Scott Barber, Dave Molta, Panu Sittiwong, Claudia Lynch

DATA ENTRY & KEYPUNCH - Betty Grise

TEST SCORING & ANALYSIS - Betty Grise

DISK SPACE PROBLEMS - Carolyn Goodman

PASSWORD AND OPERATING SYSTEM PROBLEMS - Help Desk

ADMINISTRATIVE APPLICATIONS - Coy Hoggard

COMMUNICATION/TERMINAL PROBLEMS - Help Desk

PRINTOUT RETRIEVAL - RJE Operators

Fall Computing Hours

Computing facilities will be open during the following hours throughout the Fall Semester (not applicable to holidays):

Computing Center RJE:	7 a.m. Monday - Midnight Saturday Sunday, Noon - Midnight
ISB 110 Terminal Area:	Monday - Thursday, 7:30 a.m. - Midnight Friday, 7:30 a.m. - 6 p.m. Saturday, 9:00 a.m. - 7 p.m. Sunday, 2 p.m. - 10 p.m.
College of Business:	Monday - Thursday, 8:15 - Midnight Friday, 8:15 - 8 p.m. Saturday, Sunday, 12:15 p.m. - Midnight
Room 550C, GAB:	Monday - Thursday, 8 a.m. - 12 p.m. Friday, 8 a.m. - 10 p.m. Saturday, 10 a.m.- 8 p.m. Sunday, 2 p.m. - 11 p.m.

```
* * * * * * * * * * * * * * * *
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*  N E W  P O L I C I E S,      *
*   P R O C E D U R E S,        *
*    A N D   O T H E R          *
*    I M P O R T A N T          *
*       S T U F F               *
*                               *
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```

The Survey is Coming!

The Computing Center will be canvassing the campus early next semester, trying to find out your likes, dislikes, and "wish lists" with regard to computer services here at NTSU. Be on the lookout for this important document, and send us any suggestions you might have for questions/topics to be contained therein.

Disk Space Getting Dangerously Low

The space on ACAD00 and ACAD01 is almost used up, so beware! If you have unused datasets on these packs, please delete them, or transfer them to tape. Here are some JOB setups to help you in this endeavor.

To delete data sets:

```
//IDIDname JOB (IDID,:05,1),'your name',PASSWORD=yourpassword
// EXEC PGM=IEFBR14
//DD1 DD DSN=USER.IDID.data.set.name,VOL=SER=ACADnn,
        UNIT=SYSDA,DISP=(OLD,DELETE)
//DD2 DD  ....data set information....
//DD3 DD  ....data set information....
//DDn DD  ....data set information....
```

If your dataset is catalogued, simply leave off the VOL=SER= portion of the DD statement and it will be uncatalogued and deleted at the same time.

To copy a disk file to tape:

```
//IDIDname JOB (IDID,:05,1),'your name',CLASS=B,PASSWORD=yourpassword
//  EXEC  PGM=IEBGENER,REGION=256K
//SYSPRINT  DD  SYSOUT=A
//SYSIN  DD  DUMMY
//SYSUT2  DD  UNIT=TAPE9,DISP=(NEW,KEEP),
//            DSN=data.set.name,LABEL=(n,SL),
//            DCB=(dcb information)
//SYSUT1 DD DSN=USER.IDID.data.set.name,VOL=SER=ACADnn,
           UNIT=SYSDA,DISP=(OLD,KEEP)
```

Once you are satisfied your file is safely on tape, you should run the IEFBR14 job, described above, to delete your disk

dataset. For more information about the Tape Management System, read the next article.

Just a Reminder

When storing files on disk always remember, the naming convention for disk datasets is: USER.IDnn.filename

where:	USER.	- must appear
	IDnn	- is your User ID and must appear
	.	- must appear
	filename	- is one or more optional fields (each of which may not exceed 8 characters) separated by periods.

If you do not comply with this convention, your dataset(s) will be deleted from the disk(s) without warning.

Tapes that have been created with the tape management system here at NTSU expire. To find out the status of your tape, you should run the following job at least once or twice a semester. This is very important, since once a tape expires it is ERASED.

```
//IDIDname JOB (IDID,:05),'your name',CLASS=B,PASSWORD=yourpassword
// EXEC    TMSINFO
//SYSIN DD *
VOL=tape volume
/*
```

If you want the life of your TMS tape extended, contact Academic Computing Services (565-2324) and ask for an update to be made to the TMC. If you have any other questions about using TMS, consult HELP OPER while logged on to MUSIC or contact Academic Computing Services.

MINITAB Now Available on MUSIC
By Steve Glick, MUSIC Technical Support Programmer

MINITAB 81.1, an interactive statistical package developed by Penn State University is now available on MUSIC. To access it, simply type the word MINITAB from the *GO mode.

Some of the statistical analyses available with MINITAB are:

- descriptive statistics
- analysis of variance
- chi-square
- exploratory data analysis
- matrix operations
- regression analysis
- correlation
- nonparametric methods
- time series analysis

In addition to the statistical procedures listed above, MINITAB has a number of data management features including:

* Dynamic file access to MUSIC save library files for purposes of data input and output.

* Easy transformation of data.

* Flexible plotting features including histograms, line plots, scatter plots, and box plots.

* Convenient editing, sorting, ranking, and selecting of data.

* Generation of data with various statistical distributions.

* Comprehensive table-making to analyse and summarize data.

MINITAB also has a macro facility which allows sets of frequently used commands to be stored in a file and executed at any time and there is a comprehensive on-line help facility giving explanations fo most features and commands.

There are three CAI modules to help you learn to use MINITAB. To access these, type MINITAB1, MINITAB2, or MINITAB3 from *GO mode. Each of these is one MINITAB course of increasing complexity. These CAI courses come to us from Maricopa Junior College.

MEMO Facility to Replace MAIL on MUSIC

By Steve Glick, MUSIC Technical Support Programmer

We have recently made available to MUSIC users a new message facility called MEMO. MEMO can be accessed by typing the word MEMO from the *GO mode. It is an easy and convenient way in which to electronically communicate with other MUSIC users.

The major difference between MEMO and the MAIL system which we have been using is that the receiver of the memo need not have previously created a 'mailbox' file. Also with MEMO, you have the option of forwarding the memo to another user, replying to the memo, saving the memo in a file, or discarding the memo. Another nice feature of MEMO is that you will be notified that you have a memo when you sign-on, without setting your 'autoprog'. Further information is available by typing HELP MEMO while in the *GO mode, or by typing HELP once in the MEMO facility. MEMO is also documented in the MUSIC 5.2 Users Guide.

You may notice the verbosity of MEMO when using the READ command. A faster way to read your memos is to use the GET parameter. To do this, type the command MEMO GET from *GO mode or type the word GET once you are within the MEMO facility.

Our current MAIL facility will be phased out this semester, and will go away altogether during the first week of January. This is being done because the MAIL system did not adequately serve most users' needs.

One problem with MAIL was that there was no convenient way in which to find someone's user code. While MEMO itself does not address this problem directly, the Computing Center has taken this opportunity to develop a User-ID information system. See the following article for more information on the USERID facility.

USERID Information Now Available on MUSIC

By Steve Glick, MUSIC Technical Support Programmer

The Computing Center has been aware for some time of the need for a convenient way in which a person could find the date of their codes' expiration, as well as a more general need to find a person's code when only their name was known. This need for name searches is most apparent when sending electronic mail.

We have recently implemented the USERID system which addresses all of these issues. There are 3 ways to use USERID. First, typing USERID from the *GO mode will return information about your code, such as which systems you have access to (MVS, MUSIC, VAX, etc.), the current status of these codes (Active or expired), and the expiration date for your code.

Another way to use USERID would be if, for example, you need to send an electronic memo to someone and don't know their code, you could enter: USERID NAME where NAME is the last name of the person for whom you are seeking a user code. The USERID facility would return information on each person whose last name matches the NAME string. One could, for example, enter USERID SMITH JOHN to get information about all John Smiths who have codes, or USERID SMITH to find all Smiths, or USERID SM for information on all people whose last name begins with 'SM'.

Finally, if you need to check that a code does actually belong to the person who you think it does (i.e., before sending a memo), you can enter USERID idcode, where idcode is whatever code you need information about. Searches on user codes are substantially faster than searches on name.

The USERID facility can also be executed in batch. The requsite JCL is (you fill in the correct JOB card information):

```
/INC OSJE
TYPE='STUDENT',RETURN
//IDIDname JOB (IDID,:05,1),'your name',PASSWORD=your password
//SHOWME EXEC USERID
name of person      <====== NAME OR USER CODE HERE, BLANK NOT ALLOWED
```

A sample of USERIDs' output follows:

--- North Texas State University Userid Information System --

Owner: . . . . COMPUTING CENTER User ID: LA00
Department: ACADEMIC COMPUTING
Project Title: MUSIC PUBLIC ACCOUNT

Systems Authorized	Status
MUSIC	Active

Creation Date: 09/19/84
Code Expires: 12/31/99

Submission of Wordprocessing Projects to Data Entry

The Data Entry section of the Computing Center is currently accepting bulk wordprocessing projects from faculty members and teaching fellows. Following is thier bulk wordprocessing policy.

1) Jobs submitted by faculty ranked instructor and above will be accepted for all listed priority areas. Teaching fellows can only submit work that involves preparation of materials for classroom use.

2) Jobs will be entered on a bulk entry basis only. Only formatting that is noted on text will be done by operators. After entry, if other than minor corrections are needed, jobs can be resubmitted and will be processed per priority category. Text from.TI diskettes or MUSIC files themselves can be printed after initial entry. Only one copy will be printed.

3) Priorities for completing submitted work have been established by the Dean's council. Those with high priority are scholarly articles for publication; speechs or presentations; proposals for funding to be submitted via NTSU; grants or project reports for projects with 3xxx or 7xxx numbers; material for classroom use. Lower priority jobs are materials to fulfill professional organization responsibilities and scholarly monographs or books.

4) Formatting will only be done based on instructions marked on submitted text.

5) A valid ID code is necessary for all submitted jobs.

6) WORD PROCESSING ORDERS FOR DISSERTATIONS OR THESES WILL NOT BE ACCEPTED.

Report from Paris: The International Computer Music Conference

By Kimball P. Stickney, VAX System Manager

Last month I presented two papers at the 1984 International Computer Music Conference in Paris, France, October 19-26 at the

Institute de Recherche et Coordination Acoustique/Musique (IRCAM), a French government-sponsored facility devoted to advanced research in music and acoustics using computers. My papers related to computer graphics applications, and provided an opportunity to mention NTSU's forthcoming graphics facilities to the international academic community of 400 or so in attendance. IRCAM is a remarkable facility which was built in conjunction with the Centre Georges Pompidou, a five-story ultramodern cultural center containing libraries, concert halls, theaters, and galleries. IRCAM itself is completely underground next to the Centre Pompidou, and consists of eight recording studios, a VAX and various other computers, research offices, an anechoic chamber, and a completely tunable room called the Espace de Projection which was used for all the presentations at the conference. An extremely wide variety of topics were presented including software systems, signal processing, composition, analysis, live performance, expressive control, affordable systems, musicology, and music printing. This latter category was the one in which I was involved, doing presentations on "Graphics Primitives for an Interactive Music Notation Editor", and "Quality Music Printing on a $200 Plotter". These topics concern the development of software applications which will run on relatively inexpensive equipment and be useful to a broad class of musicians not having computer expertise. The interest in this area was gratifying. These topics have significance beyond the musician-oriented application, in two main ways. One is that music graphics challenge the current state of software arts with regard to internal data structure organization and screen display. The problem is an extension of those problems found in, say, mathematical typesetting and Chinese typesetting. The other significant aspect is the user interface challenge. As one conference participant pointed out, a musician writing or performing music presents a considerable challenge for automated information acquisition and retrieval, and is perhaps a more complex problem than, say, flying a jet. Numerous researchers have noted the inherent challenge and complexity in music and other arts-oriented computer interfaces. Attention to these challenges appears to be stimulating new developments in software engineering that might not otherwise have come about. Participants from MIT, Stanford, Carnegie-Mellon and Lucasfilm all seemed to agree on this. It is also not insignificant that an increasing number of outstanding computer scientists seem to have extensive musical talent or background. The ICMC conferences seek to foster this productive symbiosis.

There was some evidence that the presentations on music printing will contribute to an interest expressed by the French Publishing Syndicate and others in the development of a standard for computer-aided music notation editing. This standard, which is currently dubbed KERMES (Kernel for a Music Editing System), would be useful to academic and commercial groups interested in music notation and publishing. I participated in a panel discussion on this topic which included representatives of commercial and academic institutions from the USA and France. There was a general acknowledgement that this effort is in it's

infancy, and that it would not be wise to standardize too soon on something would would not be adequately flexible in the long run. This was an exciting atmosphere, giving the sensation of being on the frontier of a newly cross-bred scientific/artistic discipline.

Pierre Boulez, a composer and conductor on international fame, started off the conference with a performance of his work "Repons" in one of the large performing spaces of the Centre Pompidou. This work integrated a wide variety of contemporary musical resources, including multiple ensembles of performing musicians as well as live digital synthesis equipment. Boulez is largely responsible for the dimplomatic and political efforts which were necessary to fund, construct and administer IRCAM. Bob Moog, famed inventor of the Moog synthesizer, directed a panel discussion about the MIDI (Music Instrument Device Interface) standard. Many concerts were given which demonstrated the techniques and equipment discussed in the lectures. For some of the concerts, we were bused across town to the auditorium of Radio France, which is across the river from the Eiffel Tower. Most of week consisted of an intense schedule of lectures, demonstrations and concerts (sometimes two concerts in the evening back to back!), causing diehards such as myself to put in 14-hour days. This was helped by the fascinating neighborhood (called Beauburg) in which IRCAM and the Centre Pompidou reside, in which continuous circus-like sideshows are going on; one may see dogs jumping through flaming hoops, Houdini-like escape acts, fire-breathers, outrageously bizarre dancers and mimes, punk outfits and hairstyles to rival the most radical, organ grinders, and other such wildness. Bear in mind this is the normal daily fare for this area! The finishing touch is the surrealistic fountain pool over IRCAM with elaborate turning mechanical devices such as a huge skull, a coiled snake, a treble clef, and other objects less easily described. Next to this avant-garde wizardry is the Cathedral Saint Merri, a gothic beauty providing dramatic contrast. The City of Paris required that IRCAM be built underground so as not to obstruct the view of this church.

Meeting some new people at the conference led to an opportunity to visit the Centre Mondial d'Informatique, the French World Center for Computing Research. They also have VAX equipment, as well as a DEC-20 serving as a host for several Symbolics 3600 Lisp machines, and Apple Macintoshes (interestingly, there was no IBM equipment either at IRCAM or the Centre Mondial, save for a few personal computers at the latter site). They are doing some interesting 3D graphics animation research, as well as a medical diagnosis expert system developed on Lisp machines with the target environment being a book-sized Z80 CPM machine for use by paramedics in Chad. I found this sort of cross-development very interesting: using larger machines, which have enormously powerful software development tools, to create programs to run on tiny microprocessors. Cross-compilers themselves are not particularly new, but I had never seen such a totally integrated work environment with window systems and Lisp used for microprocessor development. I was also able to try a beta test

copy of a Common Lisp for MS-DOS which will be available soon. I learned of a Macintosh support environment called SUMACS which allows distributed processing between a Mac and a VAX running Unix, and heard some rumors of a Lisp machine by TI called the Explorer. Finally, I acquired an MS-DOS version of the KERMIT universal file-transfer program which we are in the process of implementing here at NTSU. Some additional assembly-language code will have to be written for the TI PC, but fortunately most of the code is written and debugged. KERMIT is on our VAX systems and on the 8040 under CMS. It allows fully error-corrected file transfers to and from personal computers.

The trip was very productive. I look forward to helping NTSU benefit from the information and software acquired during this eventful sojourn.

Know Your Representative

The University Computing Council was established in 1981 to function as an advisory body with respect to computing policies, services, physical facilities, and allocation of resources. It is a standing Council, and reports to a Steering Committee composed of the Vice President for Fiscal Affairs, the Vice President for Academic Affairs, the Vice President for Administrative Affairs, and a Representative of the President of the Texas College of Osteopathic Medicine.

The Computing Council is concerned with both current policy matters and long-range planning. An emphasis is placed on policies and procedures to provide and maintain a balance between required computing services and the necessary funding, staff, and space commitments to meet these requirements. The equitable allocation of existing computing services is also of continuing concern.

Academic, administrative, and Computing Center representatives comprise the Computing Council, with the academic representatives serving the dual role of Council members and Academic Computing Coordinators for their respective colleges or schools. The duties of the Academic Computing Coordinators are listed below:

* Developing, documenting, and updating school or college and departmental computing plans including current and future computing service requirements by course or project. These plans are used used by the Council to determine and document University academic computing requirements.

* Providing advice and assistance to faculty members in the use of computing services and software packages to promote effective and coordinated use of available computing services and facilities.

* Providing advice and assistance to the Computing Center staff in the development of user guides, software documentation, and seminars.

* Coordinating, assisting, and controlling departmental or faculty sub-allocations of resources such as terminal and on-line disk storage

* Coordinating, assisting, and controlling departmental or faculty acquisition of computing equipment and software (including microcomputers and word processing systems).

* Other duties as agreed within the Computing Council.

The administrative computing representatives are individuals who, because of their positions, are normally responsible for the development and coordination of major administrative computing information systems. Other members of the Council include representatives from the Computer Science Department and the Accounting and Information Systems Department; The Director of Computer Systems, the Manager of Computing Services, and the Manager of Information Systems (all non-voting, ex-officio members); and several additional members who have expertise otherwise not available on the Council.

It is particularly important that all members of the academic community be aware of their particular representative on the Council, so that any requests or questions that would be appropriate for the Council to consider can be heard.

Following is a list (as of November 1984) of all Computing Council members :

ACADEMIC COMPUTING COORDINATORS

Dr. Neal Tate, Chair, College of Arts and Sciences
Mr. Cengiz Capan, College of Business Administration
Dr. William Luker, School of Community Service
Dr. Robert Bane, College of Education
Dr. Hugh Kirkpatrick, Graduate School and Faculty Research
Dr. Don Cleveland, School of Library and Information Sciences
Dr. Paul Dworak, School of Music
Dr. Gerald Knezek, Department of Computer Sciences
Dr. Chad Nestman, Department of Accounting and Information Systems
Dr. Jane Workman, Home Economics

ADMINISTRATIVE COMPUTING COORDINATORS

Academic Affairs Systems
Ms. Joneel Harris, Admissions and Records
Mr. Tom Overton, Counseling and Testing
Dr. Jimmie Naugher, Office of Planning and Analysis
Dr. Ed Johnson, Director of Libraries
Dr. Peter Witt, Research

Fiscal Affairs Systems
Mr. Steve Rohn, Controller, Payroll, Budgets
Ms. Pat Fine, Purchasing, Housing, Bookstore and Other Fiscal

Administrative Affairs and Other Systems
Mr. Steve Miller, Personnel, Physical Plant, Facilities, Advancement and Others

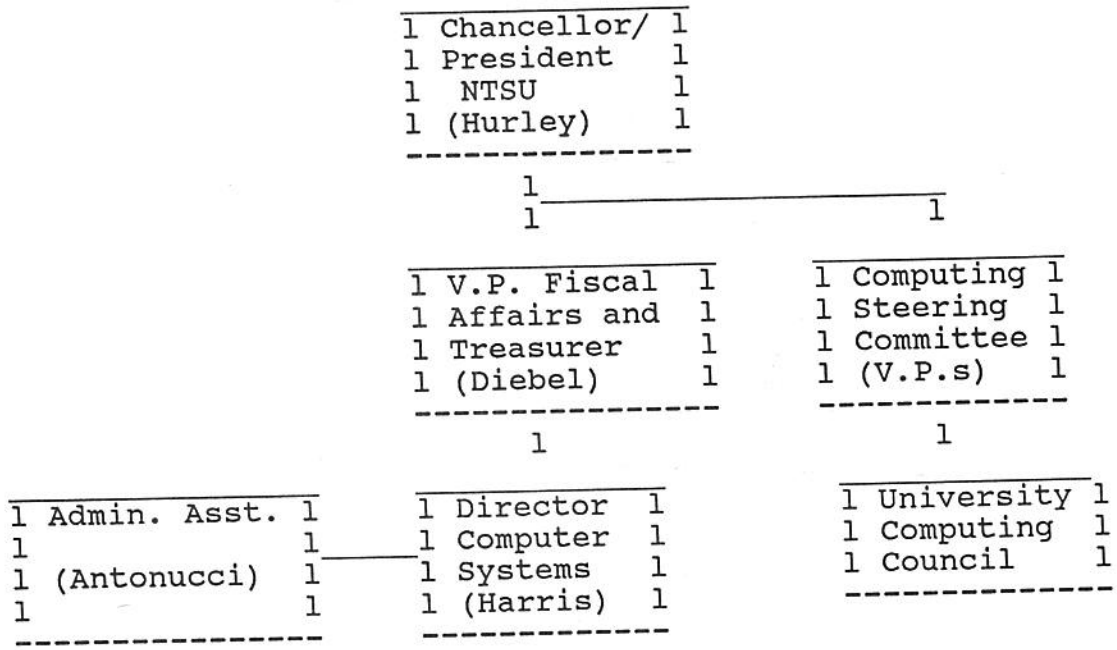
Medical Affairs Systems
Ms. Diane Edwards, TCOM Computer Services

OTHER REPRESENTATIVES (Non-Voting)

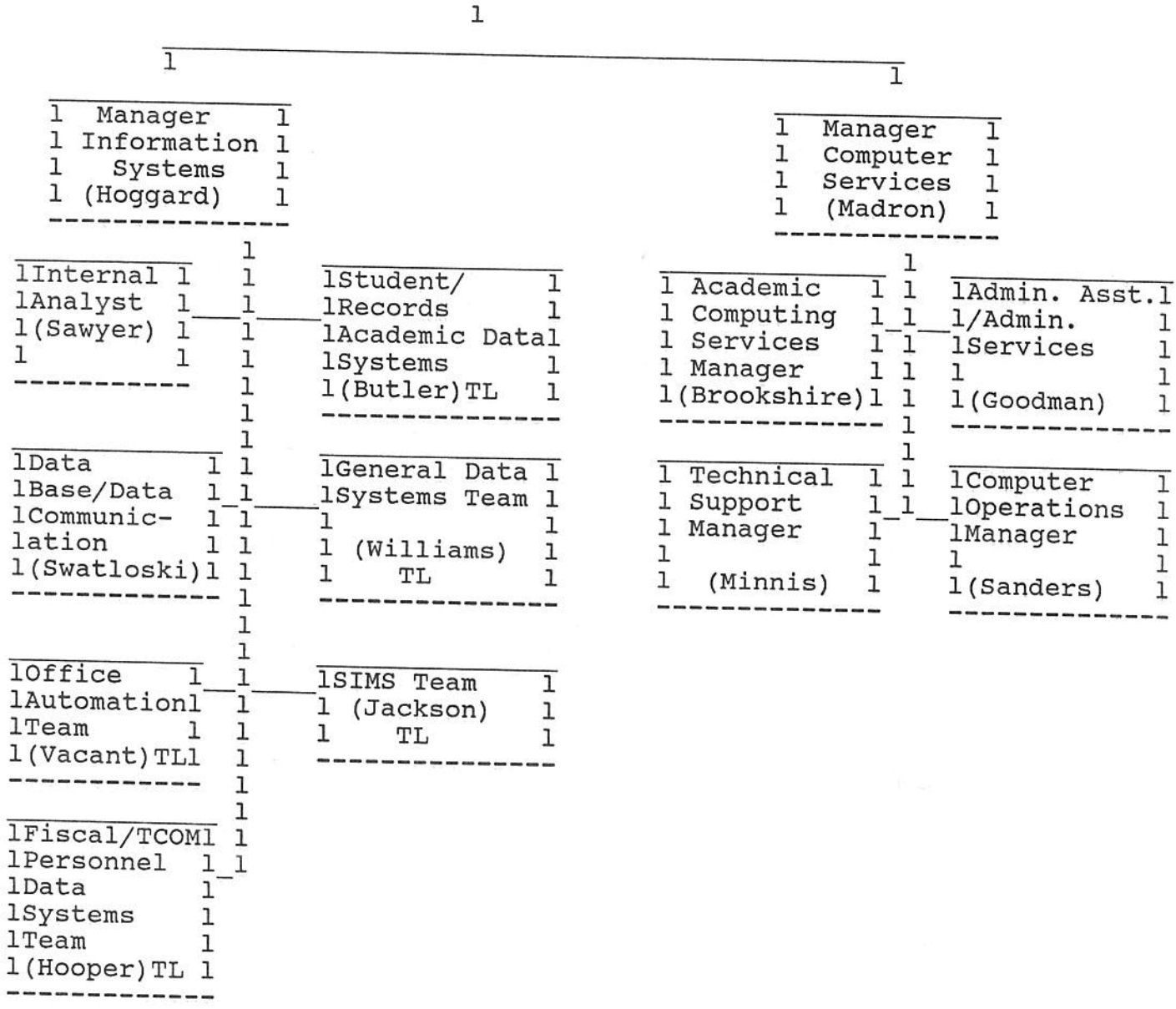
Mr. Richard Harris, Director of Computer Systems - Computing Center
Dr. Tom Madron, Manager of Computer Services - Computing Center
Mr. Coy Hoggard, Manager of Information Systems - Computing Center
Dr. Bob Brookshire, Manager of Academic Computing - Computing Center
Mr. Stan Sawyer, Systems Analyst - Computing Center
Dr. Larry Luce, Director of Facilities Planning & Utilization
Mr. Ray McFarlane, Director of Facilities Planning & Construction
Mr. Tom Newell, Communications Manager

NTSU Computing Center Organization - November, 1984

The September issue of BENCHMARKS contained an organization chart which was reported to be that of the Computing Center, but, due to an inadvertant ommission, the only person from the Computing Center that was on it was the Director. This then, is the real Computing Center organization chart.



Computing Center Organization Chart Continued from Director of Computer Systems:



NOTE: TL=Team Leader

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*                         *
*  O P E R A T I O N S    *
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Backup Schedule for OS/MVS

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems and their contents is done once every two weeks at some low activity period over a weekend.

NAS/8040 Performance Statistics for October

SYSTEM	SCHEDULED OPERATING HOURS	PLANNED MAINT. HOURS	PLANNED PRODUCTION HOURS	UNPLANNED MAINT. HOURS	PRODUCTION HOURS ACHIEVED	SYSTEM UPTIME
VM/SP2	744	2.11	741.89	4.73	737.16	99.4%
MUSIC	744	25.56	718.44	11.34	707.10	98.4%
MVS/JES2	744	2.25	741.75	7.13	734.62	99.0%
COMPLETEA	744	2.34	741.66	8.05	733.61	98.9%

CPU availability equals approximately 100% uptime.
System Uptime=(Production Hrs Achieved)/(Planned Production Hrs)
Production Hrs Achieved = (Planned Production)-(Unplanned Maint.)
Scheduled Operating Hrs = (Planned Maint.) + (Planned Production)
MUSIC Planned Maintenance Hours include 23.38 hrs system backup.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the following key causes:

Terminal Control Systems (MEMOREX)	
1. 1270 TCU Tuning/Testing	1.12 HOURS
Terminal Control Systems (IBM)	
1. 3272 TCU Failures	4.00 HOURS
Miscellaneous	
1. Undetermined Causes for Systems Restarts	1.91 HOURS
2. Reset CPU Clock to Standard Time	0.28
3. T-Bar 3911 System Tuning/Improvements	2.08
4. VM/SP3 System Tuning/Improvements	3.39
5. MUSIC System Tuning/Improvements	2.37
6. COMPLETA System Tuning/Improvements	0.41
TOTAL	10.44 HOURS
GRAND TOTAL	15.56 HOURS

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* * * * * * * * * * * *
*                     *
*  T E C H N I C A L  *
*    S U P P O R T    *
*                     *
* * * * * * * * * * * *
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MVS/JES2 Support Person Resigns

Paul Weissmann, who joined our staff this summer, has resigned his position and will return to San Antonio at the end of this month. Paul's wife, Ellen, who was a member of our Information Systems group, will also be leaving. We will miss them both, and wish them luck in their new endeavors.

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*                                     *
*  C O M M U N I C A T I O N S        *
*                                     *
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```

Dialing Up NTSU Computers Over the Telephone

Phone numbers for the local area network are:

300/1200 BAUD:	(817) 565 -	3300
		3499
300 BAUD:	D/FW METRO 429 -	6006

The numbers that will accept either 300 or 1200 baud communications have an autobaud feature that requires the user to hit the <RETURN> key repeatedly until the receiving modem can determine the appropriate baud rate. The METRO telephone numbers is for 300 baud communications only. After a communications link has been successfully established, the user will receive the # prompt. At this point, it will be necessary to issue the appropriate CALL command to connect with a computer.

```
CALL 8040 will connect with the 8040
          (on which you can access MUSIC)
CALL 8300 will connect with the 8040 at 300 baud
CALL 3270 will connect with the 8040 through the 3270
          protocol converter
CALL A780 will connect with VAX system A
CALL B780 will connect with VAX system B
CALL 2000 will connect with the HP-2000 computer
```

```
* * * * * * * *
*             *
*  M U S I C  *
*             *
* * * * * * * *
```

MUSIC Backup Hours

A message will be sent to all users signed on to MUSIC approximately 10 minutes before backups are begun. It will be in the form * * MUSIC SHUT DOWN AT xxxx AM - SCHEDULED BACKUP **. To find out the backup hours while signed on to MUSIC, enter HELP HOURS. The following backup schedule is currently in effect:

Tuesday	3 a.m. (for about 3 hours)	Weekly backup
Wednesday - Saturday	4 a.m. (for about 2 hours)	Daily backup
Saturday	Midnight (for about 2 hours)	Daily backup

```
* * * * * *
*         *
*  V A X  *
*         *
* * * * * *
```

VAX Backup Schedule

Incremental bakcups of both VAX systems are performed Monday through Thursday at 5 p.m. Any files that have been created or changed are backed up. Users do not have to log out, but any files that are open at the time of the backup will NOT be backed up.
Full backups of both systems are done every Friday at 5 p.m. Again, users do not have to log out, but any files that are open will NOT be backed up.

A "stand alone" backup of both systems is done on the last working day of the month. During this time, all system software, as well as user files, are backed up. The systems must be taken down for this backup, which will usually not last more than 1/2 hour. All users that are logged on will be warned of the impending backup, and must log out.

NOTE: No backups are taken on the weekends. Requests for restoration of files should be made via MAIL to the username OPERATOR.

```
* * * * * * * * * *
*                 *
*   H P - 2 0 0 0 *
*                 *
* * * * * * * * * *
```

HP-2000 Backup Schedule

Routine system backups are scheduled to be performed at the following times:

8 a.m. Monday through Friday for approximately 20 minutes;
4 p.m. Friday for approximately 1.5 hours.

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*  I N F O R M A T I O N  *
*      S Y S T E M S      *
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NAS/6650 Performance Statistics for October

SYSTEM	SCHEDULED OPERATING HOURS	PLANNED MAINT. HOURS	PLANNED PRODUCTION HOURS	UNPLANNED MAINT. HOURS	PRODUCTION HOURS ACHIEVED	SYSTEM UPTIME
MVS/JES2	744	2.67	741.33	5.14	736.19	99.3%
COMPLETEA	315	0.00	315.00	1.40	313.60	99.6%
ADABASA	744	12.41	731.59	24.59	707.00	96.6%

CPU availability equals approximately 100% uptime. Please consult the NAS/8040 Performance Summary for an explanation of cell entries. It can be found under the OPERATIONS section of this newsletter.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the following key causes:

CPU, Tape, and Disk Subsystems(NAS)
1. Additional 7360 B4 DASD Unit Installation 0.57 HOURS

DASD Subsystem (STC)
1. Dual-Porting Failures on 8650 Disk Controlers 3.75 HOURS

Unit Record Equipment(STC)
1. 2821 I/O Control Unit Failure 0.87 HOURS

Miscellaneous

1. T-Bar 3911 I/O switch Installation	2.15 HOURS
2. Reset CPU Clock to Sandard TIme	0.18
3. MVS/JES2 System Tuning/Improvements	0.60
4. ADABASA Program Tuning/Improvements	18.39
5. COMPLETA Program Tuning/Improvements	1.21
TOTAL	22.53 HOURS
GRAND TOTAL	27.72 HOURS

Staff Changes

Ellen Weissman, who joined our staff this summer along with her husband Paul (she in Fiscal Systems, he in Technical Support), has succomed to the pull of the Alamo City and will be returning there at the end of this month. We wish both she and Paul the best of luck!

Sue August rejoined the General Systems team, after being convinced that we just couldn't live without her. Welcome back, Sue!

NTSU COMPUTING CENTER GENERAL USAGE EQUIPMENT LIST
FALL 1984
(By Location)

MAIN COMPUTER ROOM, 5TH FLOOR GAB:

1 National Advanced Systems, Model AS/8040 Computer System with 8 megabytes of main memory.
1 National Advanced Systems, Model AS/6650 Computer System with 8 megabytes of main memory (to be delivered in November, 1983).
- 1 Floating Point Systems AP-190L Array Processor
- 4 NAS 7360-A4 Disk Storage Units (5.072 gigabytes)
- 8 NAS 7350 Disk Storage Units (2.536 gigabytes) <8 More on order>
- 8 NAS 7350 Disk Storage Units (2.536 gigabytes)
- 2 NAS 7860-2 Disk Control Units
- 2 NAS 7335 Disk Control Units
- 8 STC 3350 Compatible Dual Density Disk Units with 2 controllers
- 6 NAS 7420 Tape Drives and Control (320-1250 KBS, <5 1600-6250 BPI, 1 800-1600 BPI>)
- 1 IBM 3203 Printer (1200 lpm)
- 1 IBM 2944 Channel Extender

3 IBM 3272-2 Terminal Control Units (96 synchronous lines)
1 IBM 3274
2 Memorex 1270 Terminal Control Units (16 synchronous and 96 asynchronous lines)
7 RENEX Protocol Converters (1 synchronous and 16 asynchronous ports each)

VAX COMPUTER ROOM, 5TH FLOOR GAB:

2 VAX 11/780 Systems with 4 megabytes of main memory each and 28 serial lines each.
- 2 RP07 Disk Storage and Control Units (165 megabytes each)
- 2 TU78 Tape Subsystems <1600-6250 BPI>
- 2 RM80-AA Disk Drives (124 megabytes each)
- 2 LA120 Console Terminals

VAX RESEARCH ROOM, 5TH FLOOR GAB:

1 VAX 11/780 Systems with 4 megabytes of main memory, 8 serial lines and floating point accelerator.
- 1 RM 80 Disk Storage and Control Unit (124 megabytes)
- 1 TU77 Tape Subsystem <800-1600 BPI>
- 1 LA120 Console Terminals
- 1 LXY11-A Printer/Plotter (300 lpm)

COMPUTING CENTER RJE (ISB):

1 Unitech UT-2 Remote Job Entry Processor <ISB 134A>
- 1 Documation M400L Card Reader (600 cpm)
- 1 Unitech CT-1210 Line Printer (1000 lpm)
- 1 Unitech KB-1 CRT System Console

1 HP 3000 Laser Printer, Model 2680 A (3000 lpm)
1 HP 3000 3629A Line Printer (1000 lpm)
2 IBM 1403-N1 printer (1100 lpm)

2 IBM 2821 Control Unit for 1403
1 DIABLO 1620 Timesharing Terminal (300 Baud)
1 IBM 3505 Card Reader (1200 cpm)
1 IBM 3575 Card Punch (300 cpm)

1 Hewlett Packard 2000 Access, Model 40,
Timesharing Computer System
1 HP 2108A M/20 System Processor (64K)
1 HP 2112A M/30 Communications Processor (64K)
1 DEC LA36 Console Terminal (300 Baud)
2 HP 7905A Disk Storage Units (29.5 million bytes)
1 HP 12972A Tape Drive (1600 BPI, 72 KBS)
1 HP 2748B Paper Tape Reader (8 level, 500 cps)
2 HP 12920B Asynchronous Multiplexors (32 RS-232 Terminal Interface Parts)
1 GTE T113 BDS Data Station (12 dial-up phone lines, 110-300 Baud)

COMPUTING CENTER STUDENT KEYPUNCH AREA (Hallway-ISB):
1 IBM 029-A22 Card Punches
1 IBM 059-2 Card Verifier

COMPUTING CENTER DATA ENTRY DEPARTMENT:
1 NCS 7001 Test Scoring Machine

COMPUTING CENTER RECEPTION AREA (ISB 119):
3 TI SILENT 700 Terminals (on check-out basis for faculty only)

SCIENCE AND TECHNOLOGY LIBRARY TERMINAL AREA (ISB 110):
26 Timesharing Terminals
1 Alanthus 8400 Cassette I/O Unit

MUSIC BUILDING:
10 Timesharing Terminals <MU 1007 MUSIC LAB - by appointment>
4 Timesharing Terminals <MU 2013>

BUSINESS ADMINISTRATION BUILDING:
1 Unitech UT-2 Remote Job Entry Processor <BA 152>
1 Documation M400L Card Reader (600 cpm)
2 Unitech 6444 Line Printers (600 lpm)
1 Unitech KB-1 CRT System Console
64 CRT Timesharing Terminals <BA 153>

GENERAL ACADEMIC BUILDING TERMINAL AREA:
64 CRT Timesharing Terminals <5th floor GAB>

PHYSICS BUILDING:
1 IBM 029-A22 Card Punch
1 DEC LA36 Timesharing Terminal (300 Baud) <PM 310>
1 Calcomp 663 Plotter <B13>
1 LSI ADM3A Timesharing Terminal <B13>

WOOTEN HALL:
8 Timesharing Terminals <WH 173>

SOFTWARE - WHAT WE HAVE AND WHAT WE SUPPORT: FALL 1984

The following table is a "Software Support Key" designed to inform users of the level of support the Computing Center offers for maintenance, documentation, and consultation with regard to the software available on the AS/8040 the VAX 11/780s and the HP-2000. The tables that follow this key table refer to the software available on each machine.

Software Support Key**

TYPE	FULL(F)	PARTIAL(P)	Minimal(M)	None(N)
Maintenance (MT)	a. New versions with major improvements installed as soon as possible b. Bugs fixed by CCTR staff or reported to vendor as soon as possible. c. Vendor committed to fixing bugs.	a. New versions with major improvements installed as staff is available. b. Known errors may exist. c. Vendor may not be committed to fixing bugs.	a. New versions if available installed if no major modifications are required. b. Known errors may remain. c. No guarantee of support from vendor	No Maintentance
Documentation (D)	Full documentation from vendor or local source.	Documentation from vendor or local source may be inaccurate or incomplete.	Local documentation only on access. Other documentation may be available.	No new documentation.
Consultation (C)	Consultants familiar with use and problems of software.	Consultants have information on access, but more than that depends upon available staff.	Consultants have information on access only	No consulting help

**Letters in parenthesis denote abbreviations for each category.

NAS/8040 SOFTWARE

Operating System	Processor/ Library	Support (MT)	Support (D)	Support (C)	Source	Comment
MVS/SP (Release 1.3 Operating System)	JES2	F	F	F	IBM	
	MODEL 204	F	F	N		
	FORTRAN IV	M	F	F	IBM	Version G
	FORTRAN IV	M	F	F	IBM	Version H
	FORTRAN IV	P	F	F	IBM	Version Gl
	VS FORTRAN	F	F	F	IBM	
	WATFIV	P	P	F	University of Waterloo	In-core FORTRAN Lang. Translator
	VS COBOL	F	F	F	IBM	
	COBOL	N	F	F	IBM	ANS Version 4
	WATBOL	F	F	F	University of Waterloo	In-core ANS COBOL Language Translater
	PL/I	N	F	F	IBM	Version F
	PL/I	F	F	F	IBM	Optimizing Compiler
	PL/C	P	F	F	Cornell University	In-core PL/I Lang. Trans.
	FORMAC	N	F	M	IBM Employee Contributed	PL/I F Superset
	ASSEMBLER	F	F	F	IBM	VS
	ALGOL	P	F	P	IBM	Version F
	RPG	N	F	P	IBM	360 Version
	GPSS	N	F	M	IBM	360 Version
	SIMSCRIPT	F	F	M	Consolidated Analysis	Version II.5
	SNOBOL	P	F	P	Bell Telephone	Version 4

Operating System	Processor/ Library	Support (MT)	(D)	(C)	Source	Comment
MVS/SP	SPITBOL	P	F	P	Illinois Inst. of Technology	In-core SNOBOL4 Lang. Translator
	NTSU STATPAK	F	F	F	NTSU	
	LISREL	F	F	F	SPSS Inc.	Version VI
	SPSSX	F	F	F	SPSS Inc.	Version 2.0
	SAS	F	F	F	SAS Institute	Release 82.3
	SAS/ETS	F	F	F	SAS Institute Inc.	SAS Econo-metric & Time Series Library
	SAS/OR	F	F	P	SAS Institute Inc.	SAS Operations Research Library
	OSIRIS	N	F	P	University of Michigan	Version III
	BMD	N	P	P	UCLA	
	BMDP	F	F	F	UCLA	1982 Version
	Misc. Prog. Library	F	F	F	NTSU	
	Misc. Sub-Routines	F	F	F	NTSU	
	OS Utilities	F	F	F	IBM	
	CASORT	F	F	F	Computer Assoc.	
	User Library	N	N	N	NTSU users	Programs which could benefit others.
	Scientific Library	N	F	P	IBM	Use is not recommended.
	FORMAT	N	F	M	IBM/Stanford	Release 5
	ADABAS	F	F	N	Software AG	
	NATURAL	F	F	N	Software AG	
	COM-PLETE	F	F	N	Software AG	
	Strong-Campbell Interest Inventory	M	P	M	Brigham Young Univ.	

Operating System	Processor/ Library	Support (MT)	(D)	(C)	Source	Comment
MVS/SP	Multi-Dimensional Scaling Package	M	M	P	Bell Telephone Laboratories	
	PRIME	M	F	P	University of Texas	
	IMSL	F	F	F	IMSL	Statistical and mathematical FORTRAN subroutines
	SHAZAM	M	F	P		
	WATERLOO SCRIPT	F	F	F	University of Waterloo	Text processing program
	WATFIV-S	F	M	M	IBM	
MUSIC (Mc Gill University System for Interactive Computing Version 5.2)	FORTRAN IV	M	F	F	IBM	Version Gl
	COBOL	N	F	F	IBM	VS
	WATBOL	F	F	F	University of Waterloo	In-core ANS COBOL Language Translator
	PASCAL	P	P	P	McGill/Stanford	Version 3
	VS ASSEMBLER	F	F	F	IBM	
	VS BASIC	F	F	F	IBM	
	APL	P	P	P	McGill/IBM	APL S/360 III
	STATPAK	F	F	F	McGill	Version 5
	IIPS	F	F	F	IBM	CAI Package
	TEACH	M	F	P	Maricopa Com Col	CAI Package
	TESTER	M	F	P	Maricopa Com Col	Test Generator
	MAIL	M	F	F	Maricopa Com Col	Electronic Mailing System

Operating System	Processor/ Library	Support (MT)	(D)	(C)	Source	Comment
	CALCOMP Plotting Routines	N	F	P	CALCOMP	
MUSIC	PLI	F	F	F	McGill/IBM	Optimizing Compiler
	MUSIC/SCRIPT	F	F	F	McGill	Version V
	WATERLOO SCRIPT	M	F	F	University of Waterloo	
	POLYSOLVE	M	M	M	McGill	Solves polynomial equations
	MINITAB	F	F	F	Minitab Corp.	Version 81.1
VM/370 (Virtual Machine Operating System)	VM/SP	F	F	N	IBM	Release 2.2
CMS Version 3.1	WATERLOO SCRIPT	F	F	F	University of Waterloo	Text processing program
	ASSEMBLER	F	F	M	IBM	VS
	FORTRAN	P	F	M	IBM	G1, VS
	PLI	P	F	M	IBM	
	SAS	F	F	F	SAS Institute	
	SAS FS/P	F	F	M	SAS Institute	
	SAS GRAPH	F	F	M	SAS Institute	

VAX SOFTWARE: Systems A and B

Operating System	Processor/ Library	Support (MT)	(D)	(C)	Source	Comment
VMS	FORTRAN	F	F	F	DEC	
	PASCAL	F	F	F	DEC	
	MACRO-32 ASSEMBLER	F	F	F	DEC	

VAX SOFTWARE: Systems A and B

Operating System	Processor/ Library	Support (MT)	(D)	(C)	Source	Comment
	COBOL	F	F	M	DEC	
	ADA	F	F	M	Telesoft	
	MODULA2	N	N	N	Bud Hammons, Computer Science Faculty	Contact Bud Hammons.
	CommonData Dictionary	F	F	M	DEC	
	Datatreive	F	F	P	DEC	
	MINITAB	N	F	P	Minitab Corp.	
	EUNICE	F	F	P	Wollongong	UNIX Emulator
	C	F	F	F	U of Cal. at Berkley(UCB)	
	LISP	F	F	P	UCB	Franz
	MACSYMA	F	F	P	SYMBOLICS	Restricted Use
	KERMIT	P	P	P	Columiba Univ.	
	PROLOG	P	P	P	U. of New Hampshire	
	DISSPLA	F	P	P	ISSCO	
	RUNOFF	F	F	F	DEC	

HP 2000 SOFTWARE

Processor/Library	Support (MT)	(D)	(C)	Source	Comment
SPSSHP	N	F	P	De Paul Univ.	
BASIC	N	F	F	Hewlett Packard	
EDITOR	M	F	P	Hewlett Packard	
FCOPY	M	F	P	Hewlett Packard	File Copy Utility
TUTOR	M	F	M	Hewlett Packard	BASIC tutorials
FINDIT	P	F	P	Hewlett Packard	File Processing

HP 2000 SOFTWARE					
Processor/Library	Support (MT)	(D)	(C)	Source	Comment
SYSPDS	P	F	P	NTSU	Word Processing
HP Contributed Lib	M	F	N	HP Users	
A900 Pseudo Lib.	N	F	N	NTSU Users	
CALCOMP Plotting Routines	M	F	P	CALCOMP	

MICROCOMPUTER SOFTWARE

The following microcomputer software is supported by the Computing Center on a consultation level. That is, someone on the staff is knowledgable about a listed software product and is available to consult with users.

Word Processors	WORDSTAR
Languages:	MS-BASIC
	LATTICE C
	MS-COBOL
	UCSD PASCAL
	TURBO PASCAL
Operating Systems:	MS-DOS
	PC-DOS
	CP/M
	UCSD P-SYSTEM
	CP/M 86
Communications:	ASCOM
	COMTTY
	VTERM
	TELETERM
	CROSSTALK

Spreadsheets:	MULTIPLAN
	LOTUS 1-2-3
Statistics:	ABC
	SYSTAT
	STAN
	STATPRO
	MICROSTAT
	SPSS-PC
	WALLONICK STATPAK
	NWA STATPAK
Graphics:	AUTOCAD

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